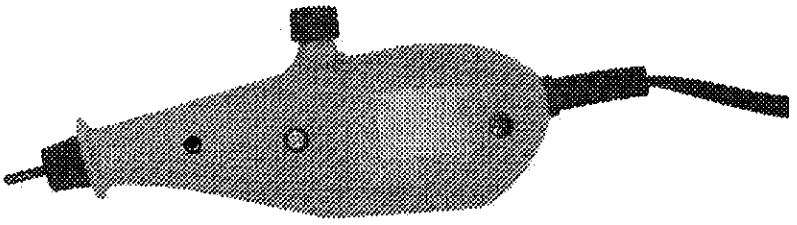
ELECTRIC ENGRAVER
With Quick Change Engraving Bit

Model 46099

ASSEMBLY AND OPERATING INSTRUCTIONS



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HARBOR FREIGHT TOOLS

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For technical questions and replacement parts, please call 1-800-444-3353

Specifications

Motor	**120V, 60 Hz, 12 watts, 0-7200 RPM**
Reciprocating Distance	**0.0036 - 0.0195 inches**
Tool Length	**6-1/4 inches**
Engraving Bit	**One Carbide Tipped Bit Included**
Line Cord	**6 Feet, 18 AWG, 2-prong U.L. approved plug**

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this product!

1. **Avoid working alone**. If an accident happens, an assistant can bring help.
2. **Avoid electrical shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and cabinet enclosures when testing voltages.
3. **Keep work area clean**. Cluttered areas invite injuries.
4. **Observe work area conditions**. Don't expose to rain. Keep work area well lighted.
5. **Keep children away**. Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
6. **Store idle equipment**. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
7. **Dress properly**. Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
8. **Use eye and ear protection**. Always wear ANSI approved impact safety goggles.
9. **Do not overreach**. Keep proper footing and balance at all times. Do not reach over or across electrical cables or frames.

10. **Maintain tools with care**. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician.

11. **Use the right tool for the job**. Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. Do not modify this tool and do not use this tool for a purpose for which it was not intended.

12. **Stay alert**. Watch what you are doing, use common sense. Do not operate any tool when you are tired.

13. **Check for damaged parts**. Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.

14. **Replacement parts and accessories**. When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.

15. **Do not operate tool if under the influence of alcohol or drugs**. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

16. **Use proper size and type extension cord**. If an extension cord is required, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool. This tool requires use of an extension cord of 0 to **10 amps** capacity (up to 50 feet), with wire size rated at **18 AWG**. Longer extension cords require larger size wire. If you are using the tool outdoors, use an extension cord rated for outdoor use. (signified by "WA" on the jacket).

17. **Maintenance**. For your safety, maintenance should be performed regularly by a qualified technician.

18. **Prevent tool overheating and damage**. The Electric Engraver should not be run continously for over 12 minutes at a time.

WARNING: This product contains or, when used, produces a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. (California Health & Safety Code 25249.5, *et seq.*)

Warning: Operation of equipment in close proximity to a heart pacemaker could cause interference or failure of the pacemaker.

Note: Performance of this tool may vary depending on variations in local line voltage. Extension cord usage may also affect tool performance.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

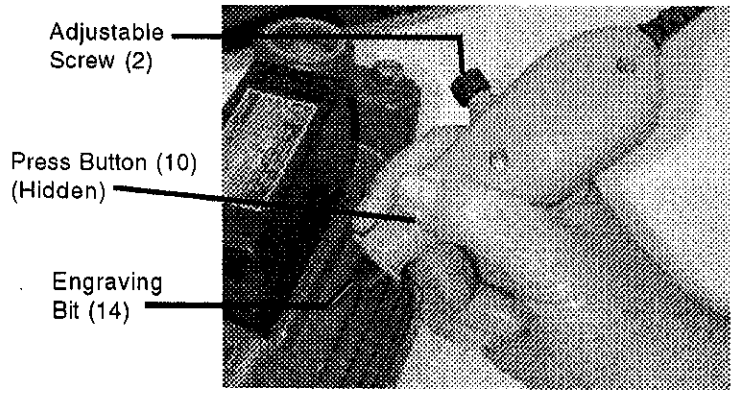
Unpacking

When unpacking, check to make sure the following parts are included. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

Operation

The carbide tipped Electric Engraver can be used to permanently mark glass, brass, PVC, wood, copper, and other metals.

1. Plug the Electric Engraver into an electrical outlet.
2. Hold the Electric Engraver as shown below.
3. With the your thumb, push down on the Press Button (10).



4. With a steady hand, slowly mark the object.

   First, practice on a piece of similar scrap material.

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Adjustments

Depending on the material being marked, it may be necessary to change the reciprocation of the Engraving Bit (14).

1. Turn the Adjustable Screw (2) counterclockwise for a finer mark.
2. Turn the Adjustable Screw clockwise for a courser mark.

Maintenance

Caution: Before any maintenance on this tool, unplug the Line Cord (15) from the electrical outlet. Maintenance should only be performed by a qualified electrician.

1. Periodically wipe the Electric Engraver with a clean, damp cloth.
2. Store in a clean and dry location.

Removing and Replacing the Engraving Bit

1. Make sure the unit is OFF and the electrical connection is unplugged.
2. **Caution**: When removing the Engraving Bit (14), do not tamper with any electrical parts.
3. To replace the Engraving Bit (14), unscrew and remove the Nut (16), pull the Engraving Bit (14) and the Spring (15) out of the Engraver.
4. When replacing the Engraving Bit (14), make sure that you remove Spring (15) and attach it back to the new Engraving Bit.
5. With the Spring (15) on the new Engraving Bit, put the Engraving Bit and Spring back inside the unit.
6. Put back on Nut (16).
7. When not in use, replace Protective Tip (17) on the Engraving Bit (14).

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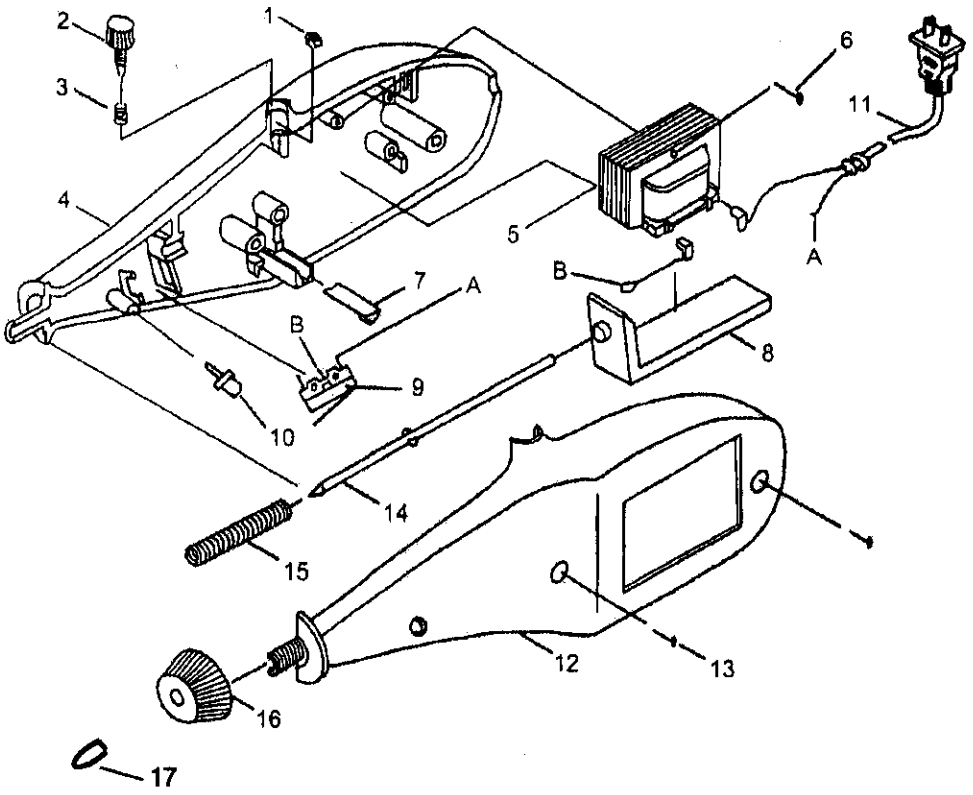
Part List

Item #	Description	Qty
1	Nut	1
2	Adjustable Screw	1
3	Spring	1
4	Right Case	1
5	Electromagnet	1
6	Stud Screw	1
7	Plate	1
8	Electromagnet Frame	1
9	Switch	1
10	Press Button	1
11	Line Cord	1
12	Left Case	1
13	Stud Screw	2
14	Engraving Bit	1
15	Spring	1
16	Nut	1
17	Protective Tip	1



NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts

PLEASE READ THE FOLLOWING CAREFULLY

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